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May 4, 1993

DERWENT-ACC-NO: 1993-159240
 DERWENT-WEEK: 199319
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TITLE: New phospholipid ester(s) of 9,11- and 10,12-octadeca-dienoic acids - are useful as antioxidants and mould growth inhibitors

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PATENT-ASSIGNEE:

ASSIGNEE	CODE
WISCONSIN ALUMNI RES FOUND	WISC

PRIORITY-DATA: 1991US-0679841 (April 3, 1991), 1989US-0313120 (February 17, 1989)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
US 5208356 A	May 4, 1993	N/A	009	C07F009/02

APPLICATION-DATA:

PUB-NO	APPL-DATE	APPL-NO	DESCRIPTOR
US 5208356A	February 17, 1989	1989US-0313120	CIP of
US 5208356A	April 3, 1991	1991US-0679841	N/A

INT-CL (IPC): C07F 9/02

RELATED-ACC-NO: 1990-274893;1991-232034

ABSTRACTED-PUB-NO: US 5208356A

BASIC-ABSTRACT:

Phospholipid esters (I) of (a) 9,11-octadecadienoic acid, and (b) 10,12-octadecadienoic acid are new. Also claimed are the pure, H₂O-soluble salts of the conjugated linoleic acids (CLA), 9,11-octadecadienoic acid and 10,12-octadecadienoic acid, and the esters of CLA and the cis-9,trans-11 isomer. These cpds. can be used to prevent oxidn. or inhibit mould growth. Specific esters of CLA include CLA Me ester, triglyceride esters of CLA and the cis-9,trans-11 isomer, and phospholipid esters of the cis-9,trans-11 isomer. Free acid forms of the CLA may be prepd. by reaction of linoleic acid with a protein such as whey protein at up to 85 deg.C.. The free acid form of the cis-9,trans-11 isomer (the biologically active form of CLA) may be prepd. by treatment of a food grade oil (safflower hydrolysate, etc.) with a linoleate isomerase at room temps.. Novel pure esters may be prepd. by conventional esterification of the appropriate free acid, or extd. in pure form from biological sources. Novel pure salts are prepd. by reaction of CLA or cis-9,trans-11 isomer with a base (NaOH or KOH) at pH 8-9. Diketone is formed (similar to the antioxidant n-tritriacontan-16,18- dione; Agric. Biol. Chem., 45, 735, 1981) when CLA is exposed to O₂. (I) may be prepd. by introducing CLA into phospholipid enzymatically (using phosphosynthetases), or CLA or the cis-9,trans-11 isomer could be fed for a few weeks to an animal (e.g. chicken), and the 'natural' (I) extd. in pure form after sacrifice.

USE - The specific salts (I) are useful as natural, non-toxic, effective agents for preventing mould growth and inhibiting oxidn. in foods. (I) are more effective as antioxidants than the parent conjugated linoleic acids (CLA).

CHOSEN-DRAWING: Dwg.0/1

TITLE-TERMS: NEW PHOSPHOLIPID ESTER OCTADECA DI ENOIC ACID USEFUL ANTIOXIDANT
MOULD GROWTH INHIBIT

DERWENT-CLASS: D13 E11

CPI-CODES: D03-F07; D03-H01P; D03-H02E; D05-C; E05-G09D;

SECONDARY-ACC-NO:

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